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UNIVERSITY of GUELPH

ANNUAL REPORT FOR FISCAL YEAR 1999-2000

OMAFRA-FUNDED RESEARCH, EDUCATION AND LABORATORY SERVICES PROGRAMS

Integrated Education, Research and Laboratories Programs
Serving Ontario=s Agriculture and Food Industries

101-05322/

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EXECUTIVE SUMMARY

Background

This is the third Annual Report on the Enhanced Partnership submitted to the Ontario Ministry of Agriculture, Food and Rural Affairs by the University of Guelph under the new Memorandum of Agreement that came into effect April 1, 1997.

This report covers the activities, expenditures and performance measures for all of the programs covered by the MOA for the fiscal year May 1, 1999 to April 30, 2000. The program areas are research, education and laboratory services and each area has its individual report in this document.

Summary of Activities and Results

The University of Guelph is contracted by OMAFRA to deliver research, education and laboratory services to the agriculture and food industry and to the people of Ontario. Some of these services were delivered directly by OMAFRA until April 1997 when staff, programs and facilities were transferred to the University.

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) Contract, which is unique in the Ontario university system, forms a major component (21%) of total University revenues. Total Contract 1999-2000 revenues and expenses were $66.3 million, $50.7 million in Ministry transfer payments and $2.8 million in diploma fees and $12.8 in departmental revenues earned mainly from the sale of goods and services such as laboratory services, continuing education and the sale of farm products. Major programs include research, education and laboratory services and the Veterinary Clinical Education Program (VCEP) which supports the clinical education of veterinary students. OMAFRA funding is received on a contractual basis, therefore, the University cannot have any accumulated budget deficits. Unspent funds are restricted for use within the contract and are carried forward in total to the next fiscal year. Although OMAFRA revenues and expenses are restricted and reported separately, they are considered part of the total Operating Budget as they fund University faculty, staff, operating and infrastructure costs. Direct program expenditures are managed by University college/departments as specific program/project allocations approved jointly by the University and OMAFRA.

It is important to note that most of the increased compensation costs are on-going commitments in the form of increases in salary rates. Employer pension contribution savings used to offset these increases are currently available because of the level of surpluses in the pension plans. Over time, it is expected that these surpluses will be reduced as the cost of recent improvements and a return to normal market results on pension assets impacts the plans. Therefore, more permanent funding solutions to these increases will need to be found from either increased revenues and/or expenditure reductions.

Research

Several changes occurred in management. Dave Hume assumed the duties of Executive Director for Research Program, Linda Thompson began as Financial Services Manager, John O'Sullivan started as Research Program Director for Plants and Valerie Davidson became the Research Program Director for Foods.

The Food Program and the Sustainable Rural Communities Program were both reviewed by ARIO in 1999/2000 and approved for 4-year periods. Some shifting of resources from Animal and Plant Research into Food Safety and Sustainable Rural Communities occurred.

During 1999/2000 most of the performance measures for research were met. Ninety-six percent of the researchers supported had met their research milestones, peer reviewed publications increased, outside dollars increased, business and industry support increased, and licensing and other agreements have doubled in the last two years. Royalty dollars however declined in 1999/2000 from 1998/99 levels.

There was a total transfer payment from OMAFRA of $53.7 million of which $36 million provided direct support to 347 research projects. Additionally, outside sources that funded total University research increased from $38 million in 1998/99 to $52 million in 1999-2000. This 37% increase mainly reflected successful applications to new funding sources such as the Canadian Foundation for Innovation, the Ontario Research and Development Challenge Fund and the Ontario Innovation Trust.

1999-2000 is the first fiscal year without a minor capital fund. RSO is operating without reinvestment funds.

Media coverage of research

In the first two years of the enhanced partnership, more than 60 media articles were written by the Office of Research's communication unit about research conducted by the colleges and their affiliated research stations, Laboratory Services, and the former Horticultural Research Institute of Ontario. These articles were featured in Research magazines, University of Guelph news releases, At Guelph, the Guelph Mercury, various agri-food publications, and Canadian Press member newspapers.

A few of the articles which received strong media attention include Lisa Skog's (Vineland Research Station) research on fruit volatiles, Alfred College's wastewater centre project, Chung-Ja Jackson's (Laboratory Services) research on soybeans, and Doug Hocking and Ron Fleming's (Ridgetown College) research on cryptoporidium, a waterborne parasite.

Education

General

- Student enrolment was down from 1998/99. However, graduates from the Diploma programs at the four colleges totalled 387 students during 1999/2000.

Alfred

- Received $0.5 million from the Federal Government of Canada to be used for the growth and development of new initiatives and programs.

- The College has also established it's own Foundation which has as its main mandate to raise funds thereby enhancing the growth and development of the College. Various initiatives, such as special guest-dinner speakers; Mr. Michel Chartrand, a well-known speaker and trade unionist, Mr. Jacques Proulx, former president of L'Union des producteurs agricoles du Quebec, Ms Catherine Langlois , a consultant from Pele Island Wineries, Mr. Jean Gattuso, President and CEO of Groupe A Lassonde Inc and Mr. Pierre Gauvreau, president and CEO of Olymel (these are two major food industries in Quebec) and a golf tournament have already contributed to the Foundation's coffers.

- The College received approval for the following initiatives which will provide educational training to the clients of the College: - Veterinary Technology diploma program in conjunction with College Boreal- A 8 month post-diploma certificate in International Development - A 10 month certificate in International Equestrian Sports.

- The Independent Study Section of the College will be the provider of a new college level horticulture program for francophone students. This is in partnership with Le Centre collegial de formation a distance, a Quebec CEGEP (an equivalent to our community colleges) that specializes and provides only distance education courses. The Alfred staff will provide the technical expertise.

- In 1999-2000, the Continuing Education Section, with its partners: University Lab Services and Guelph Food Technology Centre received $0.65 million from CIDA'S PRICAM project, in order to help Morocco upgrade and implement quality control standards in their agri-food and fisheries sectors. PRICAM is a French institutional reinforcement program of CIDA and College d'Alfred is the only non-Quebec college to have been awarded funding from this source.

Kemptville

- Graduated it's first group of Agricultural Apprentices – Dairy Herdsperson, 5 graduates in May 2000

- Graduated it's first group in Advanced Welding Techniques, 9 graduates in May 2000

- We have completed three full time Oil Burner Technician III programs which is a five week course and three Oil Burner Technician II programs which last six weeks each. There were a total of 72 students. All students are employed. Prospective employers are waiting for the next set of graduates.

- Streaming of Equine Programs and pre-acceptance interview have from all indications reduced the attrition rate in this program drastically (from 30 plus to 15 for first year).

- Health Care Food Service Certificate offered in 7 locations.

Ridgetown

- The Client Services unit at Ridgetown successfully initiated a number of new programs in 1999/2000 including the Excellence in Disease and Insect Management and Excellence in Soils Management program and the DZ Ag Transportation and Handling Certificate. The group also successfully bid on the administration of the Livestock Medicines Training and Licensing program. The Veterinary Medical Receptionist Certificate introduced in 1998 has offered three classes to date with large enrolments projected for September 2000 and January 2001. A new community calendar and information service – AgriLink – was introduced for the 3-county area around Ridgetown College using fax, email and Internet technologies.

- Continued our strong program of cooperative research with over 80 industry partners attracting additional external research funding exceeding $2.4 million for 1999/2000.

- Graduated 132 students in 1999 from the three diploma programs in Agriculture, Horticulture and Veterinary Technology with excellent employment opportunities. There are 66 students in the regular Veterinary Technology Diploma program. A Summer Veterinary Technology Diploma program was initiated in the Fall of 1998 which is in its second cycle and has 61 students enrolled as Juniors or Intermediates. The summer program was developed and initiated as a way to accommodate additional students to this extremely popular program.

Lab Services Division (LS)

- Dr. Pat Collins hired as the new General Manager. Pat comes to LS from a senior management position with a large private laboratory.

- John Mah was hired as the new CFO. This position was created to enhance financial management input to LS decision-making.

- Successful audits were completed by the respective accreditation bodies.

- Regulatory Services improved turnaround time for Fruit and Vegetable Survey resulting in more timely information to OMAFRA.

- Analytical Services acquired a DNA chip assayer/reader.

- The 1999-2000 fiscal year was one of taking time to consolidate the many changes that have taken place since the enhanced partnership and to re-focus on the LS vision for the future.

- Financially, LS had a successful year. Key reinvestment initiatives have been identified and in some cases, will be completed within the 2000/01 fiscal year.

1. INTRODUCTION

Under the Memorandum of Agreement (MOA) between OMAFRA and the University of Guelph, effective April 1, 1997, the transfer payment to the University totalled $54.0 million ending March 31, 1997/1998, 1998/1999 and $53.7 million for 1999/2000 fiscal years.

The figures in this report are for the University of Guelph fiscal year from May 1, 1999 to April 30, 2000

Budget estimates by program/institution are detailed in Figure 1-1. Actual total expenditures are listed beside the estimates for comparison purposes.

Figure 1-1: 1999-2000 Budget and Actual Expenditures ($ M)

	OMAFRA Transfer Funds			Revenues (non-OMAFRA)			Total Expenditures (OMAFRA & Revenues)		
	98/99 Actual	99/00 Budget	99/00 Actual	98/99 Actual	99/00 Budget	99/00 Actual	98/99 Actual	99/00 Budget*	99/00 Actual
Guelph Research	26.3	25.2	23.2	3.8	1.1	3.0	30.1	26.2	26.2
OAC Diploma	0.7	0.4	0.4	1.5	1.4	1.3	2.2	1.9	1.7
OVC – VCEP	4.7	4.9	4.7	0.2	--	--	4.9	4.9	4.7
Alfred College	2.3	2.3	2.4	2.1	1.0	1.2	4.4	3.3	3.6
Kemptville College	4.1	4.3	4.1	4.7	3.7	3.1	8.8	8.0	7.2
Ridgetown College	4.1	4.6	3.9	3.4	3.2	3.6	7.5	7.8	7.5
HRIO (Research)	4.0	3.9	3.8	0.3	--	0.1	4.3	3.9	3.9
Lab Services	8.7	9.6	8.2	4.0	3.0	3.3	12.7	12.6	11.5
TOTALS	54.9	55.2	50.7	20.0	13.4	15.6	74.9	68.6	66.3

* Includes budget carryforwards

The Colleges at Alfred, Kemptville and Ridgetown are funded for three primary functions: namely, diploma education, applied research and continuing education and services. Figure 1-2 breaks down the expenditures by program.

Figure 1-2:1999-2000 Colleges Expenditures ($ =000)

	Alfred		Kemptville		Ridgetown		Total	
	98/99	99/2000	98/99	99/2000	98/99	99/2000	98/99	99/2000
($ '000) Diploma Education**	1,968	1,623	2,408	2,210	2,462	2,557	6,838	6,390
Research**	145	137	3,212	2,986	3,228	3,003	6,585	6,126
('000) Continuing Education**	1,749	910	2,488	1,670	1,271	1,509	5,508	4,089
Services: (flow through funds)								
- cafeteria	85	73	475	390	315	325	875	788
- utilities	432	450	0*	0*	0*	0*	432	450
Totals	4,379	3,193	8,583	7,256	7,276	7,394	20,238	17,843
Expenditures covered by revenues	2,079	893	4,483	3,156*	3,176	3,494	9,738	7,343
OMAFRA support	2,300	2,300	4,100	4,100	4,100	3,900	10,500	10,500

* Utility costs paid by Ontario Realty Corporation

** Includes overhead costs

Note: Program costs ***include*** allocated administrative costs

2. Research Program

2.1 Budget

Funds for research were allocated to five commodity/discipline areas in the 1999/2000 budget. All research expenditures (faculty FTE and program overhead costs) at all locations are included in Figure 2-1.

Figure 2-1: 1999/2000 Research Budget and Actual Expenditures ($ =000)

	HRIO*		Alfred		Kemptville		Ridgetown		Guelph		TOTAL		
	99/00 Budget	99/00 Actual	99/00 Budget	99/00 Actual	99/00 Budget	99/00 Actual	99/00 Budget	99/00 Actual	99/00 Budget	99/00 Actual	98/99 Actual	99/00 Budget	99/00 Actual
Plants	1,884	1,887	9	11	644	663	1,291	1,243	5,244	5,200	9,344	9,072	9,004
Animals	--	--	--	1	475	539	201	198	5,762	5,518	6,589	6,438	6,256
Food	18	18	--	--	71	36	--	--	924	956	1,376	1,013	1,010
Resources**	--	--	5	5	115	103	279	258	2,373	2,160	2,635	2,772	2,526
SRC***	--	--	--	--	--	--	21	20	230	217	179	251	237
RSO	1,342	1,326	--	--	862	983	611	664	5,598	5,953	9,295	8,413	8,926
I & S****	--	--	108	120	106	84	167	183	511	547	2,112	892	934
Sub-Totals	3,244	3,231	122	137	2,273	2,408	2,570	2,566	20,642	20,551	31,530	28,851	28,893
Overhead	691	724	42	43	354	363	362	316	6,493	6,493	8,990	7,942	7,939
Totals	3,935	3,955	164	180	2,627	2,771	2,932	2,882	27,135	27,044	40,520	36,793	36,832

*For 1998/99, HRIO and 3 Colleges were combined.
** Resources Management and Environment
***Sustainable Rural Communities
**** Infrastructure and Support

2.2 Accomplishments in 1999/00

Research Projects Conducted in 1999/00 and Approved for 2000/01

	1999/00		2000/01		
Programs	**# Projects Active**	**# Projects Completed**	**# Proposals Received**	**# Proposals Approved**	**# Projects Active**
Animals	161	57	73	55	159
Plants	103	10	7	1	94
Resource Management and Environment	45	5	11	10	50
Food	27	24	29	21	24
Sustainable Rural Communities	11	3	8	7	15
Total	**347**	**99**	**128**	**94**	**342**

Management Accomplishments

- The Food Program was revised in April 2000. The accomplishments of the past four years and the research proposals over the next four years were presented to the Agriculture Research Institute of Ontario (ARIO). ARIO recommended to OMAFRA that the proposal be accepted as presented and OMAFRA has approved the program.

- The Sustainable Rural Communities Program was revised in June of 1999. ARIO recommended to OMAFRA that the program be approved. During 1999-2000, research proposals were considered and successful applications were funded.

- Total funding in both the Food Program and Sustainable Rural Communities was increased. Emphasis was shifted within the Food Program to increase research in food safety. Research in the Sustainable Rural Communities Program has increased components in Rural Economic Development and in management within rural municipalities.

- Program management procedures continue to evolve. Linda Thompson has been employed as the Financial Services Manager for the Research Program. For the first time, the University of Guelph has a Financial Services Manager who is dedicated wholly to the OMAFRA Contract.

- Dr. Valerie Davidson who is a faculty member in the School of Engineering, became the Research Program Director for the Food Program. Valerie=s background in Food Engineering broadens perspectives within the Food Program.

- The structure for a closer working relationship in communication and technical transfer among the University of Guelph, Research and Corporate Services Division (RCSD) and

the Research Analysts has been approved.

- Information on individual research projects is now on the Research Website at OASIS.or.uoguelph.ca. Keyword search capabilities also are available.

Highlights of Research Accomplishments

- A new soybean variety, RCAT Staples, from the Ridgetown College breeding program was the highest-rated soybean variety in the 3300 Heat Unit area over the last three years based on trials conducted by the Ontario Oil and Protein Seed Crop Committee. This continues a succession of superior soybean varieties from Ridgetown and Guelph.

- A single suite of programs for manure management in Ontario has been developed. This suite allows swine and dairy farmers to estimate nutrients present in manure at the time of land application, develop a nutrient management plan for applying nutrient, calculate the economics of different manure management systems and identify their storage requirements. The program also can rate manure systems in terms of nitrogen losses to the environment.

- A programmed breeding schedule called OVSYNC was developed for dairy cows. Pregnancy rates were 6% higher than with current breeding technologies.

- A patent application was filed for natural enzyme inhibitors to extend the shelf life of vegetables susceptible to chilling injury.

- A rapid test based on Polymerase Chain Reaction (PCR) was developed for detecting Cryptosporidium parasites in fruits and vegetables.

- Eleven new research projects were supported in the Sustainable Rural Communities Program, mainly involving rural economic development and municipal restructuring.

- On-farm food safety plans to protect against microbial contamination were developed in conjunction with Ontario Greenhouse Vegetable Growers Association.

- OAC Rex was supported for registration in Canada. It is the first Canadian white bean with resistance to common bacterial blight.

- Registration was obtained for Folicur, a fungicide to control Fusarium Head Blight in wheat.

- A technology has been developed for the prevention of pneumonia in cattle.

- A new technology which will make gene transfer easier in poultry has been developed.

- A newly developed portable embryo incubator is helping revolutionize the health and genetics within the Canadian Pork Industry. The incubator allows transfer of embryos to a sow while safeguarding against transfer of disease into the herd.

- A genetic marker region in trout has been identified which is linked to precocious sexual maturation and a related problem with poor flesh quality. The genetic marker will be used

to select for and eliminate this costly problem.

- Kemptville College conducted the analysis for Health Canada=s AThe Market Basket Study@.

- The New Liskeard Agricultural Research Station became an official performance testing site for soybeans. Preliminary testing had shown that new, early-maturing soybean varieties performed sufficiently well to warrant in-depth research on soybean production in northern Ontario.

- The University of Guelph received over $70 million in awards from the Canada Foundation for Innovation, the Ontario Research and Development Challenge Fund and the Ontario Innovation Trust by the end of 1999-2000. Long-term funding from OMAFRA has resulted in much of the expertise in the areas from which successful applications came. Several centres have been established with the funding including the Canadian Research Institute for Food Safety.

- Strong growth continued in co-operative research at Ridgetown College, where over 80 industry partners supported external research funding of more than $2.4 million for 1999-2000.

- An experimental wetland was constructed at Alfred College to study design criteria and effectiveness of artificial wetlands for the final treatment of municipal waste water before it is allowed to enter the river system.

2.3 Performance Measures

Objective	Measure/Activity	Result ($)
Increase funding in support of research under the OMAFRA contract from outside sources	Increase total funding from outside sources relative to the base funding from OMAFRA.	Granting Councils 14,735,861 Federal Gov't 13,224,505 Ont. Gov't (non-MOA) 8,811,486 Business & Industry 12,200,000 Charitable Organizations 2,600,000 Other Gov'ts 305,000 Private donors 22,000 **Total** 51,898,852 1995/96: 32.7 m 1996/97: 33.0 m 1997/98: 40.8 m 1998/99: 38.0 m Notes: The 1999/2000 total is 37% higher than the previous year. The increase is largely due to successful University of Guelph applications to the Canadian Foundation for Innovation (CFI), the Ontario Research and Development Challenge Fund (ORDCF) and the Ontario Innovation Trust (OIT).
	Increase total number of organizations providing funding.	576 organizations provided funding compared to a total of 490 in 1998/99. Business and industry represented 331 of the organizations providing funding compared to 264 in the previous year.
	Increase the number of repeat contributors.	There were 300 repeat contributors in the above 516 organizations which were down slightly from 316 in 1998/99. One reason for the decline may have been the amount of rationalization occurring in the agricultural industry. The good news was that new contributors were up substantially.
	Increase funding from business and industry, in particular.	The funding in the Business & Industry Category increased by $152,000 or 1.3%. 1996/97 $ 6.0 m 1997/98 $ 9.9 m 1998/99 $12.0 m 1999-2000 $12.2 m

Objective	Measure/Activity	Result ($)
Licenses and Patents, Royalties	Increase from 70 agreements in 1997/98 to 80 in 1999/2000	There were 115 agreements in place in 1999/2000
	Increase royalties from approximately $600,000 in 1997/98 to $800,000 in 1999-2000 (target is to reach $1 million per year by 2002).	Seed royalties in 1999-2000 were $563,525 (including $124,801 not reported in the 1998/99 year) and technology royalties were $28,466, totaling $591,991. This is a 15.8% decrease from 1998/99. The reduction is partly because royalties from the widely-grown OAC Bayfield Soybean are decreasing.
Technology Transfer	Number of peer reviewed journal publications (target approximately 350 papers per year; one paper per $25,000 of operating funds)	1998/99 – 369 plus 21 books and 45 chapters in books 1999/00 - 381 plus 29 books and 16 chapters in books were reported in project annual reports.
	Number of scientific conference papers.	1998/99 - 521 1999/00 - 540
	Number of reports.	1998/99 - 220 1999/00 - 277
	Number of software products.	1998/99 - 7 1999/00 - 2
	Number of presentations in media.	1998/99 - 446 1999/00 - 323
	Number of presentations on the internet	1998/99 - not reported 1999/00 - 11
	Number of presentations at meetings and conferences.	1998/99 - 850 1999/00 - 624
	Number of provincial/national agri-food committees on which UofG faculty participate	1998/99 - 194 1999/00 - 190
Client (OMAFRA) Satisfaction	Percent of projects completed on time and budget and project milestones delivered (target is 95% or more complying).	1998/99 - 96% 1999/00 - 96%
	Deliverables identified in MOA available on time and deadlines met.	Achieved.
	Delivery of project/program milestones.	Accepted by ARIO.

Objective	Measure/Activity	Result ($)
	Impact and significance of research programs	Some examples of significant impacts include: • Development of a critical mass of expertise in food safety in Guelph • Signing of an agreement between the Canadian Food Inspection Agency and the University of Guelph to train research scientists for the Canada Food Inspection Agency • Generation of over $8 million per year in Ontario in increased farm gate revenue because of the Ridgetown and Guelph soybean breeding program • Affordable food supply with an outstanding track record for feed safety • Increasing financial participation in research programs from non-OMAFRA sources
Impact of Research	Number of studies conducted (target is to review five projects conducted in 1999-2000)	Projects within animal species were grouped together for analysis rather than investigating individual projects. A study of the impact of swine research was completed in 1999-2000. The study is under peer review in *Agricultural Systems*. An initial assessment of beef research also was conducted. The benefit: cost ratio was 48:1 and 90% of the benefits accrued to producers.
	Develop tools to measure impact of research.	Tools for measuring the impact of research continue to evolve. The benefit: cost ratio appears to be the best overall indicator but the time lag between research investment and benefits is long and variable depending on the research. Some of the methodology is now being used to evaluate the economic benefits of specific research stations as well as research projects.

3. EDUCATION PROGRAM

Three educational components are included in the Contract:

- X the Veterinary Clinical Education Program (VCEP) at OVC
- X Diploma programs at Alfred, Kemptville, Ridgetown and OAC
- X Continuing Education programs at the Colleges

Details of VCEP are provided in the VCEP Annual Report including expenditures and performance measures. The summary is as follows:

VCEP Expenditures, Revenues and Budget
May 1, 1999 to April 30, 2000 ($ '000)

VCEP source of Funding	Vet Teaching Hospital	Dean's Office/ Reserves	Pathobiology	Clinical Studies	Population Medicine	Total VCEP
DVSc		531				531
Externship				284		284
Clinical Education	2,811	(177)	39	641	498	3,812
Total Expenses	2,811	354	39	925	498	4,627
Available Budget	2,811	564	40	970	535	4,920
Surplus (Deficit)		210	1	45	37	**293**

Table from VCEP Annual Report, 1999.2000 (page 11)
Note: The VCEP Carryforward will be used to offset personnel costs in 2000/2001

3.1 VCEP, Diploma Programs and Continuing Education

The Diploma Program Instructor's Conference held at Kemptville in April concentrated on upgrading teaching techniques and curriculum review.

In the 1999-2000 Operating Plan, funding was allocated by diploma programs and overhead (including infrastructure and support). The budget figures were comprised of OMAFRA funding and revenues generated through tuition and other program fees and produce sales from educational components of farm operations.

3.1.1 Budget

Diploma budgets and actual expenditures for 1999-2000 are shown in Figure 3.1-1.

Figure 3:1-1: Diploma program budgets and actual expenditures, 1999-2000 ($ "000)

Program	Alfred			Kemptville			Ridgetown			OAC			Totals		
	98/99 Actual	99/00 Budget	99/00 Actua	98/99 Actua	99/00 Budget	99/00 Actua	98/00 Actua	99/00 Budget	99/00 Actua	98/99 Actua	99/00 Budget	99/00 Actual	98/99 Actua	99/00 Budget	99/00 Actua
Agriculture	982	591	561	476	411	404	833	861	913	981	1,055	1,087	3,272	2,918	2,965
Horticulture	321	219	227	414	363	370	493	495	500	654	758	704	1,882	1,835	1,801
Food & Nutrition Managemen	389	238	195	621	492	452	--	--	--	--	--	--	1,010	730	647
Equine	--	--	--	559	556	515	--	--	--	--	--	--	559	556	515
Vet Tech	--	--	--	--	--	--	660	794	853	--	--	--	660	794	853
Overhead	276	642	640	338	537	469	476	325	291	509	580	573	1,599	2,084	1,973
Totals	1,968	1,690	1,623	2,408	2,359	2,210	2,462	2,475	2,557	2,144	2,393	2,364	8,982	6,524	8,754

3.1.2 Performance Measures

Enrolments

Figure 3.1-2: Diploma Program Enrolments 1995/96 - 1999-2000 (F-T students)

	Alfred	Kemptville	Ridgetown	OAC	Total	Change
1999/00	87	251	348	350	1,036	-7%
1998/99	94	293	347*	392	1,126	0.2%
1997/98	112	272	316	424	1,124	1.8%
1996/97	111	295	297	401	1,104	8.2%
1995/96	127	280	233	380	1,020	–

*The Summer Vet Tech Diploma program that was initiated in the Fall of 1998 is currently in its second cycle with 61 students currently enrolled as Juniors or Intermediates. In addition, there are 66 students in the regular diploma program. The summer program was developed and initiated as a way to accommodate additional students to this extremely popular program.

Graduation Statistics

Figure 3.1-3: 1999-2000 Graduates

	Alfred		Kemptville		Ridgetown		OAC		Total	
	98/99	99/00	98/99	99/00	98/99	99/00	98/99	99/00	98/99	99/00
Agric.	18	23	41	31	71	61	112	106	242	221
Hort.	3	3	12	9	26	24	59	44	100	80
Food	5	6	18	20	–	–	–		23	26
Equine	–	–	13	24	–	–	–	–	13	24
Vet Tech	–	–	–	–	39	36	–	–	39	36
Totals	26	32	84	84	136	121	171	150	417	387

Attrition Rates for 1998 and 1999 Cohorts

Figure 3.1-4: 1998 Cohort

	Alfred	Kemptville	Ridgetown	OAC	Total
# enrolled in Fall >98	43	169	162	203	577
# enrolled in Fall '99	42	119	128	189	478
# graduated	32	84	121	150	387
Attrition in Year 1	2%	30%	21%	27%	11%
Attrition in Year 2	24%	30%	5%	7%	19%
Total Attrition	**26%**	**50%**	**25%**	**34%**	**30%**

Figure 3.1-5: 1999 Cohort

	Alfred	Kemptville	Ridgetown	OAC	Total
# enrolled in Fall '99	45	142	155	189	531
# enrolled in Fall 2000	42	120	126	143	426
Attrition Year 1	7%	15%*	19%	27%	23%

*In 1999 Cohort at Kemptville, streaming of Equine Programs and pre-acceptance interview process were instrumental in reducing attrition rate in this program.

Ridgetown: The 1998 Cohort figures for enrolment do not agree with last year's report because we have removed the Summer Vet Tech students. The summer Vet Tech program is a three year course and the numbers cannot be included with the courses that run for only two years. The following table summarizes the fall enrolments for the two streamers of this program that are now underway.

Summer Vet Tech Cohorts

	1998	1999
# enrolled in Fall 98	36	
# enrolled in Fall 99	25	40
# enrolled in Fall 00	22	34
Attrition in Year 1	31%	15%
Attrition in Year 2	12%	

Financial Efficiency

X Figure 3.1-6 details costs per student at the four Colleges. Total cost figures at each location were calculated on the same basis. Cost differences between locations can be attributed primarily to differences in student numbers.

Figure 3.1-6:Diploma Program Costs

	Alfred		Kemptville		Ridgetown		OAC		Total		Average ($)	
	98/99	99/00	98/99	99/00	98/99	99/00	98/99	99/00	98/99	99/00	98/99	99/00
Total Cost/College* ($ '000)	1,968	1,623	2,408	2,210	2,462	2,557	2,144	2,364	8,982	8,754		
# students	94	87	293	251	347	348	392	350	1,126	1,036		
Total cost/student ($)	20,936	18,655	8,218	8,804	7,095	7,347	5,469	6,754			7,976	8,449
Student fees paid	281	347	988	1,037	1,108	1,185	1,544	1,667	3,921	4,236		
OMAFRA cost/College ($ '000)	1,687	1,687	1,421	1,173	1,354	1,372	600	600	5,062	4,832		
OMAFRA cost/student ($)	17,946	19,390	4,849	4,673	3,902	3,943	1,530	1,714			4,495	4,664

* Costs do not include utilities, or other building costs covered by OMAFRA through Ontario Realty Corporation.

Figure 3.1-7:1999-2000 Value of Diploma Student Assistance

	Alfred		Kemptville		Ridgetown		OAC		TOTAL	
	98/99	99/00	98/99	98/99	99/00	99/00	98/99	99/00	98/99	99/00
# of Student Awards ($)	11,000	10,800	35,535	31,350	33,175	35,370	44,600	46,600	122,485	125,945
Value of Awards ($) per student	117	124	121	90	95	141	114	120		

Quality of Programs

Figure 3.1- 8: Employment statistics for graduates in 1999-2000 May survey)
(percentage of graduates employed)

	Alfred %		Kemptville %		Ridgetown %		OAC %	
	98/99	99/00	98/99	99/00	98/99	99/00	98/99	99/00
Agric.	**95**	100	100	100	98	97	87	85
Hort.	**100**	96	100	83	91	100	92	88
Food	**95**	100	80	86	--	--	--	--
Equine	--	--	90	86	--	--	--	--
Vet. Tech.	--	--	--	--	89	75	--	--

3.2 Continuing Education

X Activities for Continuing Education are almost entirely self-funded through contracts and certificate courses (including residential programs of up to one academic year).

Figure 3.2-1: 1999-200 Actual Expenditures for C.E. ($ =000)

	Alfred		Kemptville		Ridgetown		Total	
	98/99 Actual	99/00 Actual	98/99 Actual	99/00 Actual	98/99 Actual	99/00 Actual	98/99 Actual	99/00 Actual
Total Revenues	1,773	808	2,750	1,302	1,527	1,717	6,050	3,827
Total Expenditures	1,749	910	2,488	1,670	1,271	1,509	5,508	4,089
Surplus (Deficit)	24	(102)*	262	(368)**	256	208	542	(262)
Revenue Components:								
Base funding	75	212	75	75	75	75	225	362
CE Revenues	1,669	596	2,400	963	1,260	1,366	5,329	2,925
Conferencing/Facility Rentals	29	32	275	264	192	276	496	572

Alfred * Unfunded expenditures (ISO registration) and program development contributed to the deficit
Kemptville ** The deficit is as a result of adjustments for overbilling of HRDC Services (ice storm), adjustments for previous years equine costs owing owning to Diploma program and investment in the future. As of May 1, the CE books are at balance.

Figure 3.2-2: Student Days and Range of Fees/Student Day, 1998-99

	Alfred		Kemptville		Ridgetown		Total	
	98/99	99/00	98/99	99/00	98/99	99/00	98/99	99/00
# of Student Days (6 hrs/day)	10953	6607	17763	19287	16967	18024	45683	43918
Fees/day ($)	25-200	23-100	70-95	70-95	74 avg.	76 avg.	–	–
Diploma Student Equivalent*	91	55	148	161	141	150	381	366

*Calculation: divide number of students by 120 student days
Alfred has a 46% increase this semester, with new programs being implemented within the next 12 months. Alfred should maintain the same increase next year.

3.2.1 Quality Evaluation

X All training programs have participant evaluations for completion at the program conclusion.

X Standardized course assessments for similar programs.

X Needs assessment C input from agrifood sector and C.E. council, community councils.

3.2.2 Effectiveness of Program Delivery

X Client evaluations and support
X Repeat business (returning clientele)
X Follow-up with clients of conferences
X Joint initiatives with industry C too numerous to list, and expanding.

4. LABORATORY SERVICES DIVISION

4.1 Budget

Laboratory Services (LS) provides analytical and diagnostic services to government, the University of Guelph and to the agri-food industry. LS is structured in three main work groups to provide these services. The work groups are Analytical Services, Regulatory Services and the Animal Health Laboratory. The following report will focus on the overall results of the division as well as highlight some significant developments in the various workgroups.

Financial Results (for the year ended April 30, 2000) ($ '000)

	1998/99**	1999/00	1999/00
Expenditures	**Actual**	**Budget**	**Actual**
Animal Health Labs		4,300	4,800
Analytical Services		1,200	1,000
Regulatory Services		2,600	2,700
I & S*		3,500	2,000
Administration		1,000	1,000
Total	**12,700**	**12,600**	**11,500**
Revenue	4,000	3,000	3,300
OMAFRA Funding	9,000	9,000	9,000
Net Expenses	**8,700**	**9,600**	**8,200**
Surplus/(Deficit)	300	(600)	800

*Infrastructure and Support

**Breakdown of 1998/99 financial results not available.

Performance Measures	1998/99	1999/2000
External funding	4,000	5,100

Laboratory Services had a successful year financially. A surplus of $0.8 million was generated during the fiscal year. This compares favourably to a Budget, which had expenses equal revenues at $14.8 million. This favourable variance to Budget is primarily the result of LS taking considerable time in 1999-2000 to focus on developing a common vision and establishing a solid business plan going forward. As a result some planned expenditures included in the original Budget (including personnel, operating & capital) were deferred pending the outcome of these strategic planning initiatives. Capital reinvestment in 1999-2000 of $0.4 million consisted of,

equipment purchases for the animal surveillance and regulatory programs as well as computer upgrades.

The generation of a surplus in the 1999-2000 fiscal year gives LS a good start on the funding for the following key reinvestment initiatives, which will be started and in some cases completed in 2000-2001 (planned expenditures in 2000-2001 in brackets):

- Replacement and upgrading of the Laboratory Information System (LIMS) ($500,000 - $750,000)
- Replacement of critical core scientific equipment, which is aging ($200,000 - $300,000)
- Re-Investment in new technology required to maintain and extend LS capability in the delivery of exceptional analytical and diagnostic services ($100,000 - $200,000)
- Implementation of the Animal Health Strategic Planning recommendations for improving workflow efficiency and service quality ($150,000 - $250,000)

Reinvestments in 2000-2001 will total approximately $950,000 - $1 million.

Despite the deferred expenditures in many areas, LS was able to meet all of its regulatory testing requirements as negotiated with OMAFRA on a timely and reliable basis. In addition sales (non-OMAFRA) exceeded Budget slightly by $0.1 million. An excellent result considering resources spent were less than Budget in many areas. This is a testament to the dedication of the employees of LS.

General

For LS, the 1999/2000-year was one of taking time to consolidate the many changes that have taken place in the first few years of the enhanced partnership and to re-focus on the LS vision for the future. The welcomed completion during the year of the AAFC building renovations and corresponding office lab moves will enable a more concentrated LS effort to reach its long-term goals.

LS continued to establish new revenue streams by strengthening its business strategies. Development during the year which support this change in mode of operation are:

- Dr. Pat Collins hired as the new General Manager. Pat comes to LS from a senior management position with a large private laboratory.
- A new CFO position was created to enhance financial management input to LS decision making.
- A supervisory skills training program was established for supervisory staff.
- Developed communication strategies internally and externally. An internal newsletter was initiated to improve communication to staff.
- Significant overhaul of computer systems to allow usage of modern Windows based business software and to address Y2K issues.
- Refined Schedule "N" to define costs for each testing program

Highlights – Quality Assurance

A very busy year for LS in maintaining our quality recognition's. Successful audits were completed by the respective accreditation bodies resulting in the following:

- Re-registration of our ISO 9002 quality system for labs at 95 Stone Rd. (for 3 years)
- Re-accreditation by the American Association of Veterinary Laboratory Diagnosticians (AAVLD) for 5 years
- Re-accreditation by the Standards Council of Canada of quality system ISO guide 25 for certain labs within 95 Stone Rd. (for 2 years)

LS obtained valuable feedback in its annual survey of its customer base (OMAFRA & external clients) on performance measures such as turn around time (TAT), reporting efficiency etc. The survey rated LS service very highly with the majority of scores in the very good – excellent range (scores 4 - 5 on a 5-point scale). LS will strive to maintain these high ratings in the future and to garner some additional performance measure data to further enhance the goal of continuous improvement.

Highlights – Regulatory Services

Significant improvements in the turnaround time for the Fruit and Vegetable Survey, resulting in more timely information to OMAFRA.

Additional milk testing services negotiated directly with the DFO, further enhancing milk quality within the province.

A method developed and validated for "species identification" in ground meat. LS anticipates that this will be a widely demanded service in the future.

Highlights – Analytical Services

Acquired a "DNA chip assayer / reader". This advanced equipment will allow LS to be in the forefront of leading edge method development for molecular biology, resulting in additional services to be offered in this rapidly growing field.

Highlights – Animal Health Laboratory

Acquired a newer generation of "hematology analyzer". This advanced equipment allows LS to provide faster more reliable service to OMAFRA, the Ontario Veterinary College and external clients. An example of re-investment in significantly upgraded technology, resulting in better service.

Also purchased an automated cover slipper and upgraded microtomes in order to reduce repetitive strain problems.

Highlights – Teaching & Research Activities

Research projects at Laboratory Services Division (LS), University of Guelph are designed to enhance the analytical and diagnostic services provided by the division in areas of plant and animal health, food and agriculture.

In the 1999/2000 fiscal year, LS scientists provided training for 26 undergraduate students, supervised or co-supervised 10 graduate students and 4 post-doctoral fellows, authored or co-authored 12 publications in peer reviewed journals, 19 articles in newsletters and research magazines, published and presented 16 abstracts in scientific meetings. LS scientists gave 26 presentations in various workshops, industry meetings and scientific conferences. A total of 29 research projects currently in progress were initiated within the last two years and approximately half of these were initiated within the last fiscal year. OMAFRA and the Food Industry funded more than 90% of these projects. The research program at LS provides training opportunities for post-doctoral fellows, graduate and undergraduate students. Currently, there are 3 Ph.D. students, 4 M.Sc. students, and 6 undergraduate students working on research projects and special projects for analytical services.

APRIL 2000
5. EQUIPMENT INVENTORIES (INCLUDING LIBRARY HOLDINGS)

The following summary of estimated equipment replacement values is submitted in compliance with the requirements of the Memorandum of Agreement (1996) and includes the following institutions which became part of the University of Guelph as of April 1, 1997.

Laboratory Services Division
Alfred College
Kemptville College
Ridgetown College
Horticultural Research Institute of Ontario.

	Cost Value	($ '000) Estimated Market Value	($ '000) Estimated Replacement Value *(Cost x 2, Market x 3)*
Alfred College *(incl. some fixed equipment)*	SSSSSS	1,834	5,500
Kemptville College	SSSSSS	1,634	5,000
Ridgetown College	SSSSSS	3,832	8,200
Horticultural Research Inst.	SSSSSS	1,803	6,700
		TOTAL	**25,400**

Lab Services Division

Agric. & Food Lab	9,587,293 (plus 2.5 m fixed equip.)	SSSSSS		19,000	
Guelph Animal Health Lab	1,584,000		SSSSSS	3,000	
Kemptville A.H. Lab	450,000		SSSSSS	900	
Ridgetown A.H. Lab	400,000 (est.)	SSSSSS		800	
			TOTAL	**23,700**	(98/99 value)

Research Station Operations - Guelph

- Owned equipment	11,800	
- Leased equipment	2,700	
TOTAL		**14,500**

Grand Total (Estimated) **63,600**

APRIL 2000

6. INVENTORY OF DWELLING HOUSES, RENTS, AND ACCOUNTS STATUS

	# Units		
Kemptville College			
Kemptville	1		
New Liskeard	2		
Total	3		
Revenue		13,204	
Expenses		0	
Account balance: Opening			**4,539**
Closing			**17,743**
Ridgetown College			
Ridgetown	2		
Cedar Springs	1		
Total	3		
Revenue		18,913	
Expenses		14,136	
Account balance: Opening			**26,319**
Closing			**31,097**
Guelph Stations			
Ariss	3		
Cambridge	1		
Alma	1		
Hall House	1		
Ponsonby	1		
Arkell	3		
Simcoe	1		
Vineland	2		
Total	13		
Revenue		72,105	
Expenses		49,628	
Account balance: Opening			**228,933**
Closing			**251,410**

Note: January 1999 ORC/UoG "M" lease expired. Negotiations are continuing with ORC regarding a new "M" lease.

APRIL 30, 2000
7. LIVESTOCK INVENTORIES

	OPENING MAY 1, 1999	SOLD	DIED	TRANSFERRED		BORN OR ACQUIRED	CLOSING APRIL 30, 2000
				IN	OUT		
ALFRED							
DAIRY	70	29	10			43	74
KEMPTVILLE							
DAIRY	106	116	22			162	130
NEW LISKEARD							
BEEF	376	208	6			139	301
SHEEP	648	656	141	190	305	772	508
RIDGETOWN							
DAIRY	70	38	4	22	25	48	73
BEEF	16	129		3		219	109
SWINE	652	938	175	56	411	1,371	555
GUELPH							
ARKELL EQUINE	57	8	23	27	18	21	56
ARKELL POULTRY	5,243	5,173	6,832			12,993	6,231
ARKELL SWINE	1,991	3,455	1,905		667	6,151	2,115
ALMA AQUA	155,000	86,000	83,000		33,000	176,000	129,000
CLINICAL RESEARCH (SWINE)	18	18					0
CLINICAL STUDIES (DAIRY)	69	70		50	5		44
ELORA DAIRY	314	92	11	18	97	163	295
ELORA BEEF	439	255	13	12	13	361	531
PONSONBY DAIRY	103	30	16	8	21	54	98
PONSONBY (GAF)	213	8				15	220
PONSONBY SHEEP	393	66				95	422

GAF: GENERAL ANIMAL FACILITY

ACRONYMS

AAFC	Agriculture and Agri-Food Canada
AHL	Animal Health Laboratory
ARIO	Agricultural Research Institute of Ontario
BIO	Beef Improvement of Ontario
CAEAL	Canadian Association for Environmental Analytical Laboratories
CIP	College Information Program
CFI ·	Canadian Foundation for Innovation
CFIA	Canadian Food Inspection Agency
DFO	Dairy Farmers of Ontario
GLP	Good Laboratory Practices
HRIO	Horticultural Research Institute of Ontario
ISO	International Standards Organization
LIMS	Laboratory Information Management System
LS	Laboratory Services Division
MOA	Memorandum of Agreement
OAC	Ontario Agricultural College
OASIS	OMAFRA Agreement=s Information System
OMAFRA	Ontario Ministry of Agriculture, Food and Rural Affairs
ORC	Ontario Realty Corpo ration
OVC	Ontario Veterinary College
RCSD	Research Corporate Services Division
RFP	Request for Proposal
RSO	Research Station Operations
SCC	Standard Council of Canada
SOP=s	Standard Operating Procedure
VADDS	Vetstar Animal Disease Diagnostic System
VCEP	Veterinary Clinical Education Program